

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

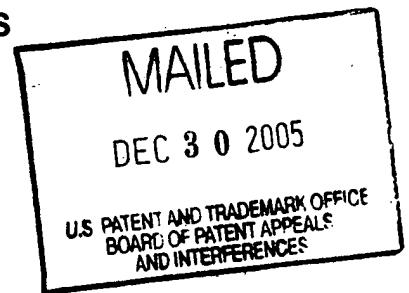
UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte ERIC C. ANDERSON

Appeal No. 2005-2764
Application No. 09/177,251

ON BRIEF



Before HAIRSTON, KRASS, and DIXON, Administrative Patent Judges.
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42.

The invention pertains to imaging devices, such as digital cameras. In particular, the invention seeks to improve the quality of a portrait image. Conventionally, when a portrait image is captured, a user typically desires the subject(s) to be in focus while the background is soft, or out of focus. But, often, the background images are so close to the subject image that the focus zone encompasses both images and so the subject as well as the background will be in focus, giving a poor quality to the portrait image. The invention allows a user to capture a portrait image in which the subject is in focus, while the background is not in focus. This is done by shifting the focus zone so that at least one

subject is out of focus if at least one of the plurality of subjects, or objects, is not out of focus.

Representative independent claim 1 is reproduced as follows:

1. A method for capturing an image using an image capture device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, method comprising the steps of:

- (a) determining if the image matches at least one criteria;
- (b) determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria;
- (c) determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus; and
- (d) shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if it is determined that the focus zone can be shifted so that the at least one object is out of focus;
- (e) setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus; and
- (f) adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for at least one object to be out of focus.

The examiner relies on the following references:

Wakabayashi et al. (Wakabayashi)	4,825,235	Apr. 25, 1989
Ikemori	4,826,301	May 02, 1989

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Nagahata et al. (Nagahata)	5,825,016	Oct. 20, 1998
Omata et al. (Omata)	6,067,114	May 23, 2000 (filed Oct. 24, 1996)

Claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers Omata, Ikemori, and Wakabayashi with regard to claims 1, 2, 4-7, 10, 11, 13-21, 28, 32, 34, 38, 40, and 41, adding Nagahata to this combination with regard to claims 3, 9, 12, 22, 30, 36, 39, and 42.

Reference is made to the briefs and answer for the respective positions of appellant and the examiner.

OPINION

In rejecting claims under 35 U.S.C. §103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). To reach a conclusion of obviousness under §103, the examiner must produce a factual basis supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a prima facie case. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). The examiner may satisfy his/her burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead the individual to combine the relevant teachings of the references. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

With regard to the independent claims, it is the examiner's position that Omata discloses a method for capturing an image (column 3, lines 9-20), wherein the image is capable of including a plurality of objects (Figure 5) and each of the plurality of objects is a corresponding distance from the imaging device (column 5, lines 8-10, 16-17), and wherein the image is associated with a focus zone (column 3, lines 60-62, column 5, lines 18-21). The examiner contends that the method comprises the steps of determining if the image matches at least one criteria by determining the corresponding distance for each of the plurality of objects (column 5, lines 8-10, 18-21), determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria and shifting the focus zone by focusing the image on a selected main object (column 4, lines 12-15).

The examiner admits that Omata does not specifically disclose whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus and shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus, and if it is determined that the focus zone can be shifted so that the at least one object is out of focus, setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus, and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

Therefore, the examiner turns to Ikemori for an alleged teaching of a soft focus function wherein it is determined that the focus zone can be shifted so that at least one object is out of focus if the object is not out of focus, and shifting the focus zone to the at least one object is out of focus (column 11, lines 34-60).

The examiner also includes Wakabayash for an alleged teaching of adjusting an aperture value to improve the soft-tone effect by decreasing the depth of field (column 18, lines 38-48).

Taking these teachings together, the examiner concludes that it would have been obvious to include the method of shifting the focus zone so at least one object is out of focus in Omata, as taught by Ikemori, in order to produce a special effect such as soft focus on the background of the image, which is "well known" in the art (Paper No. 11-page 5) so that the main object (foreground) would appear sharper. The examiner also contends that only changing the aperture in Wakabayashi creates a soft focus effect, and that when focused on an object of interest, and a soft focus mode is desired, it would have been obvious to change only the aperture size in order that the object of interest would remain in focus during the soft focus effect.

Appellant's view is that the applied references fail to teach or suggest determining whether the focus zone can be shifted enough so that one of more objects are sufficiently out of focus, shifting the focus zone if the focus zone can be so shifted, and setting the aperture without shifting the focus zone (principal brief-page 8).

After consideration of the arguments of appellant and the examiner, as well as a review of the applied references, we will not sustain the rejection of claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 under 35 U.S.C. § 103.

With regard to independent claims 1,9, 10, 19, and 22, each of these claims requires determining whether the focus zone can be shifted..., shifting the focus zone if the focus zone can be shifted... and setting the aperture size without shifting the focus zone after the focus zone has been shifted, if it can be shifted....

The examiner admits that none of these limitations are shown in Omata, so the examiner turns to Ikemori for the steps of determining whether the focus zone can be shifted..., and shifting the focus zone if the focus zone can be shifted.... The examiner relies on Wakabayashi for the step of setting the aperture without shifting the focus zone.

From our review of the references, we agree with appellant that Omata is concerned with tracking an object that is in focus so that that object brought into focus stays in focus. We also agree with appellant that Ikemori refocuses an image to compensate for a shift caused by spherical aberrations in moving a lens. Thus, Ikemori detects a focus zone shift and compensates for that shift, but Ikemori does not appear to actually determine whether the focus zone can be shifted enough so that the object(s) are sufficiently out of focus. That is, a *detection*, by Ikemori, of a focus zone shift, and then compensating for it, is not the same as a *determination* of whether a focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus, as claimed.

Wakabayashi does not remedy this deficiency in Ikemori. As to the aperture size claim limitation, Wakabayashi does appear to adjust aperture size, the examiner has pointed to nothing within Wakabayashi that indicates that this aperture adjustment is made *without shifting the focus zone* and *after the focus zone has been shifted*, as required by the instant claims.

The examiner contends that Ikemori clearly teaches shifting a focus zone, and we agree with that. But, the examiner further contends that the focus zone can only have been shifted “if it is determined that the focus zone can be shifted” (answer-page 7). We do not agree with this latter statement. Just because a certain operation is actually performed, this does not mean that there was a prior determination that the operation

could be performed. Moreover, the instant claims do not merely require a determination that the focus zone can be shifted, but, rather, a determination that the focus zone can be shifted "so that the at least one object is out of focus if the at least one object is not out of focus." We fail to find this limitation taught or suggested by any of the applied references.

With regard to Wakabayashi, the examiner contends that it is Ikemori which teaches shifting the focus zone, and Wakabayashi is relied on for the broad teaching of improving an existing soft focus condition by manipulating only the aperture. Therefore, according to the examiner, in view of the combination of Wakabayashi and Ikemori, "Wakabayashi teaches setting the aperture size without shifting the focus zone because the focus zone has already been shifted in Ikemori. It is well known by photographers to vary both focusing and aperture to produce an overall desired soft-focus effect and thus the use of the technique in Wakabayashi following the lens movement in Ikemori would have been obvious to one skilled in the art" (answer-page 6).

While the examiner has shown, from the combination of Ikemori and Wakabayashi, that it might have been obvious to shift the focus zone and also, alternatively, adjust the aperture size, the instant claims require more than merely shifting the focus zone or adjusting the aperture size. Rather, the focus zone is shifted so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus, when it is determined that the focus zone can, in fact, be shifted so that the at least one object is out of focus and, the aperture size is adjusted without shifting the focus zone after the focus zone has been shifted so that the at least one object is out of focus, wherein the aperture size is adjusted to shorten the focus zone after the focus zone has been shifted if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

Thus, it is not enough that shifting the focus zone and adjusting the aperture were known ways to produce a soft focus. The instant claims specifically call for shifting the focus zone under certain specified conditions and then, after the focus zone has been shifted, the aperture size is adjusted to shorten the focus zone *if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus*. That is, there is a very specifically claimed relationship between the shifting of the focus zone and the adjusting of the aperture. The aperture size is not adjusted if the focus zone is sufficient for the at least one object to be out of focus. Hence, the mere knowledge of shifting a focus zone and adjusting an aperture size, two actions which, separately, are taught by the applied references, would not, in itself, suggest the specific relationship between these two actions recited in the instant claims.

Since we do not find that the examiner has established a prima facie case of obviousness with regard to the instant claimed subject matter, because the subject matter of the independent claims is not suggested for the reasons supra, and Nagahata, applied in addition to the primary references against dependent claims 3, 9, 12, 22, 30, 36, 39, and 42, does not provide for the deficiencies of the primary references, we will not sustain the rejection of claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 under 35 U.S.C. § 103.


The examiner's decision is reversed.

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REVERSED


KENNETH W. HAIRSTON
Administrative Patent Judge


ERROL A. KRASS
Administrative Patent Judge


JOSEPH L. DIXON
Administrative Patent Judge

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